



Utrecht Art Supplies Art Materials Safety: Then and Now



Century-old image of a worker handling white lead

Ask the Expert: "I know that lead based paints were known to cause illness. Are there any noteworthy deaths or illnesses caused by art supplies? Have all of those issues been solved today, or is there still somewhat of a risk? Where do the pigments come from? I know you have a plant in Brooklyn, but what comes before that?"

A: Frankly, painting with the modern palette is extremely safe, so we don't think you'll find many painters who can honestly say they are risking life and limb at the easel. Artists in other fields like sculptors- especially stone carvers- and ceramic and glass artists need to manage much more significant risks, but all the artists we know take sensible measures to protect themselves.

Where historical painters are concerned, as far as we know the accounts of illness attributed to use of paint are mostly just legend, or

speculation at best (with the notable exception of radium-based luminous clock paint.).

Compared to workers in industries like battery manufacture, painters have extremely minimal exposure to very small amounts of cadmium and lead, or none at all if substitute colors are used. Many simply avoid using riskier colors and opt for "hues" which offer similar performance using non-toxic substitute pigments.

Some of the more famous accounts of poisoning in the lead pigment industry come from Jack London's "People of the Abyss". This book includes true stories about Victorian lead workers that are very shocking. Today, however, except for a few small-batch producers, collecting lead pigment by hand (scraping flakes of white lead from corroded lead coils or buckles) is strictly a relic of the 19th century. Today manufacture of lead and cadmium-based colors is done through chemical processing in large, sealed tanks. This is infinitely safer and results in a much more consistent, pure product.

Where Do Pigments Come From?

Pigments are sourced from factories and mines all around the world. Where man-made colors are concerned there may be only one or two large chemical companies making the entire global supply. All the world's art materials manufacturers put together consume only a small proportion of the world supply of pigments compared to the plastics, architectural and automotive industries. Cadmium pigment is widely used as a colorant for plastics, for example, and tire manufacturers use a vast amount of synthetic amorphous carbon black.

The majority of artist's colors today are non-toxic, synthetic materials, beginning with mauve, the first synthetic colorant (accidentally invented during the pursuit of

man-made quinine). After 1900 there was huge growth in the number of man-made colors, some of which are also used as colorants in food and cosmetics.

Some colors are still mined from the earth, though in a few cases terrestrial sources are becoming played out. Very few animal-derived colors are still in use, with the exception of Ivory Black which is still made from animal bone.

There are several basic categories of pigments:

- Natural Organic (naturally occurring earths with a tar-like component)
- Synthetic Organic (man-made colors derived from by-products of coal, petroleum or natural gas)
- Natural Inorganic (mineral/metallic colors from terrestrial sources/mines)
- Synthetic Inorganic (man-made metallic or oxide colors)

Paint Manufacture

The chemists and craftsmen who make artists' colors are trained professionals who don't take unnecessary risks with health and safety. Modern paint manufacture is a safe process conducted in well-regulated workplaces involving protective equipment and collection systems to remove particles from the air.

In The Studio

Even without lead-based colors on the palette, generally speaking it's a good idea to stay clean at the painting station and avoid repeated or prolonged skin contact with paints. Above all, read and follow any instructions on the label. Package labels include indications for use and handling, so it's important to read and understand any safety warnings. What you should be looking for are:

- Long-form instructions (e.g. warning not to spray-apply).
- The AP symbol for certified non-toxic art materials. Art materials that carry the AP Non-Toxic symbol are certified by a health professional to contain no materials in sufficient quantities to be toxic or injurious to humans,

including children, or to cause acute or chronic health problems.

- The CL (Caution Label) seal for products that require special handling and precaution for safe use. These are generally safe to use by artists who are able to understand the risks and take appropriate precautions. The CL label must be used on paints containing lead and may by choice be used on other products.

- California Prop 65: The State of California requires labeling on products containing chemicals that have been shown to cause cancer, birth defects, or other reproductive harm. (The warning is required even if only a trace amount of such substance is present.)

In addition, the following safe studio habits should be routinely followed, especially when using potentially risky materials:

- Avoid ingesting paint
- Avoid prolonged or repeated contact with skin
- Do not produce aerosol or airborne particles with these products by spray application or sanding
- Avoid eating, drinking and smoking at the painting station
- For complete information about safe use, handling and disposal of specific products, refer to MSDS documents

Questions? [Ask the Expert](#)

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